Weird quantum fluctuations of empty space—maybe (Science/AAAS)

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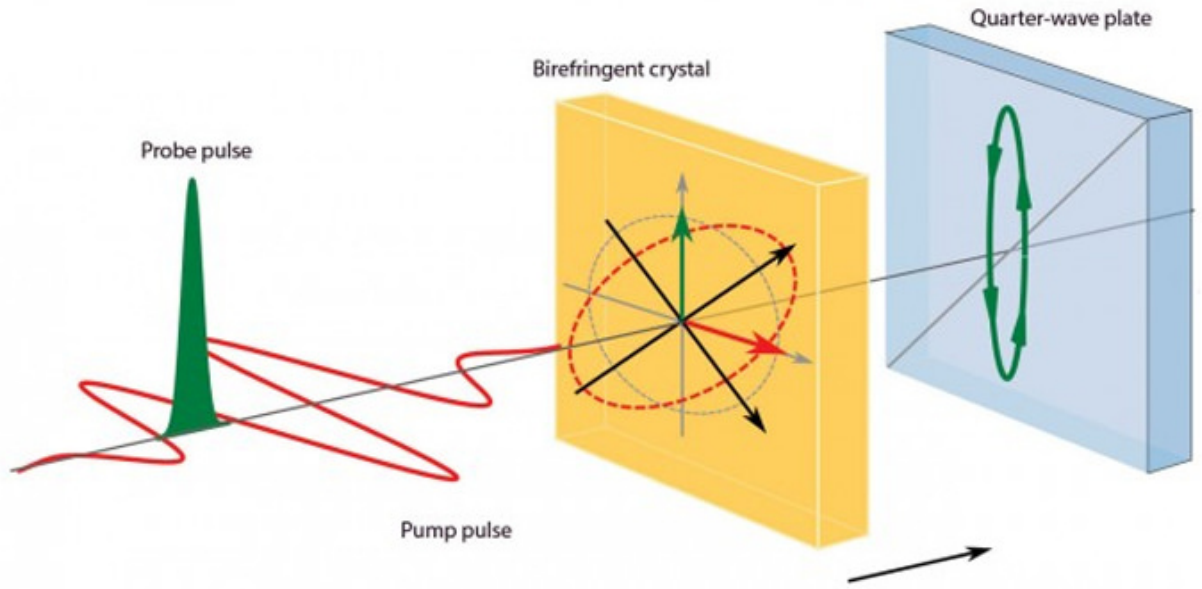

Weird quantum fluctuations of empty space—maybe

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Empty space is anything but, according to quantum mechanics: Instead, it roils with quantum particles flitting in and out of existence. Now, a team of physicists claims it has measured those fluctuations directly, without disturbing or amplifying them. However, others say it's unclear exactly what the new experiment measures—which may be fitting for a phenomenon that originates in quantum mechanics' famous uncertainty principle.

"There are many experiments that have observed indirect effects of vacuum fluctuations," says Diego Dalvit, a theorist at Los Alamos National Laboratory in New Mexico who was not involved in the current work. "If this [new experiment] is correct, it would be the first direct observation of the field [of fluctuations] itself."

By Adrian Cho


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